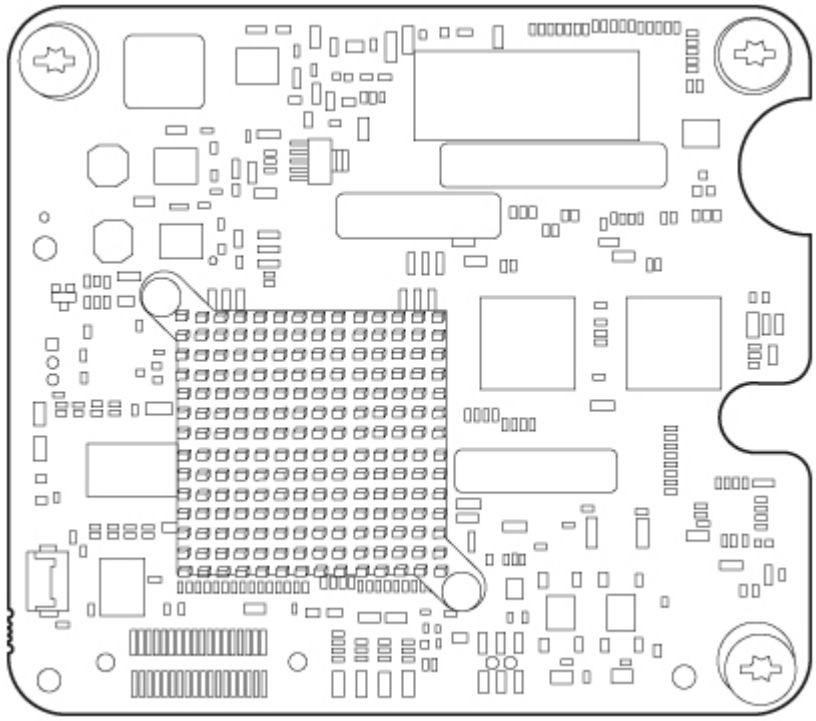
Overview

HP NC550m 10GbE 2-port PCIe x8 Flex-10 Ethernet Adapter

The HP NC550m 10Gb 2-Port PCIe x8 Flex-10 Ethernet Adapter is a new member of the C-class 10Gbe adapter portfolio. The HP NC550m is a Flex-10 designed Ethernet Adapter based on the Blade Engines 2 controller and delivers superior throughput of all adapters in the 10GbE portfolio. Perfect for virtualized environments, the adapter works with all BladeSystem c-Class G6 servers. When paired with any of our new ethernet switches, the combination provides a high bandwidth, high performance network environment.



HP NC550m 10GbE 2-port PCIe x8 Flex-10 Ethernet Adapter

At A Glance

- Industry-leading throughput and latency performance
- Supported on all G6 c-Class servers, in mezzanine slots1, 2 or 3 (full height servers) or slots 1 and 2 (half height servers).
- Type I Adapter
- IEEE 802.1p QoS 802.3x flow control, and 802.3ap 10GBase-KR
- 9K Jumbo frames
- Dual 10Gb ports provide up to 40Gb full duplex per adapter
- Supports HP's exclusive Flex-10 technology that allows you to set any bandwidth from 100Mb to 10Gb on up to four "Physical Function " NICs per port when combined with the 10Gb Flex-10 Virtual Connect module
- Supports VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)

Overview

Models

HP NC550m 10Gb 2-port PCIe x8 Flex-10 Ethernet Adapter 581204-B21

NOTE: The NC550m network adapter card is required for each server blade connecting to a 10Gb interconnect in bays 3-8 (HP BladeSystem c7000 Enclosure) or bays 3-4 (HP BladeSystem c3000 Enclosure)

NOTE: The NC550m requires a minimum of 2 GB of server memory.

NOTE: The NC550m supports linking at 1000Mbps or 10000Mbps when not connected to a Flex-10 device. The NC550m will only support 1000Mbps when connected to a 1Gb Ethernet interconnect.

Kit Contents

1. NC550m mezzanine adapter
2. Quick install card
3. Product warranty statement
4. Drivers, user guide, and utilities via: http://www.hp.com

Standard Features

Server Support

- HP ProLiant BL2x220c G6
- HP ProLiant BL280c G6
- HP ProLiant BL460c G6
- HP ProLiant BL465 G6
- HP ProLiant BL465 G7
- HP ProLiant BL490c G6
- HP ProLiant BL495c G6
- HP ProLiant BL495c G5
- HP ProLiant BL680c G5
- HP ProLiant BL685 G6
- HP ProLiant BL685 G7

NOTE: Some servers listed above may be discontinued.

Performance

Dual-port 10 Gigabit Ethernet Throughput	The NC550m 20,000 Mbps full duplex Ethernet transfer rate per port (40 Gbps aggregate full duplex) delivers outstanding network performance that improves response time and removes bottlenecks required for the next generation data center.
HP Virtual Connect Flex-10 10Gb Ethernet Module for the c-Class BladeSystem	Evolve 10Gb at your own speed! When paired with the HP Virtual Connect Flex-10 10Gb Ethernet Modules, take advantage of the Flex Nics, which are PCI Physical Function devices that are OS independent. Server ROM recognizes them as individual NICs Speeds can be set per NIC from 100Mb to 10Gbs in 100Mb increments Three fold increase in number of network connections per port. Up to four physical function NICs per port
Jumbo Frames	The NC550m support for jumbo frames (also known as extended frames) permit up to a 9K byte transmission unit (MTU), which is over five times the size of standard 1500 byte Ethernet frame. The use of jumbo frames is a way to achieve higher throughput and better CPU utilization. Jumbo frames are particularly useful for database transfers and tape backups.
802.1p QoS Tagging	IEEE quality of service (QoS) 802.1p tagging allows the adapter to mark or tag frames with a priority level across a QoS-aware network for improved traffic flow.
TCP/IP Stateless Offloading	For overall improved system response, the NC550m supports standard TCP/IP stateless offloading techniques including: • TCP/IP checksum offload (TCO) moves the TCP and IP checksum offloading from the CPU to the network adapter. • Large send offload (LSO), also known as TCP segmentation offload (TSO), allows TCP segmentation to be handled by the adapter rather than the CPU.
802.1Q VLANs	IEEE 802.1Q virtual local area network (VLAN) protocol allows each physical port of the NC550m to be separated into multiple virtual NICs for added network segmentation and enhanced security and performance. VLANs increase security by isolating traffic between users. Limiting the broadcast traffic to within the same VLAN domain also improves performance.
PXE	Support for pre-boot execution environment (PXE) enables automatic deployment of computing resources remotely from anywhere. It allows a new or existing server to boot over the network and download software, including the operating system, from a management/ deployment server at another location on the network. Additionally, PXE enables decentralized software distribution and remote troubleshooting and repairs.
TOE	TCP/IP Offload Engine (TOE) moves the processing of data in the TCP protocol stack from the server CPU to the network card, freeing CPU cycles for other duties.

Performance

RDMA	Not Supported
iSCSI	The NC550m does not support accelerated iSCSI or iSCSI boot.

Compatibility

Supported Interconnect Modules

- HP Virtual Connect Flex-10 Ethernet Module
- HP 1/10Gb Virtual Connect Ethernet Module
- HP 1/10Gb-F Virtual Connect Ethernet Module HP
- HP 6120XG Blade Switch
- HP 6120G/XG Blade Switch
- HP 1:10Gb Ethernet BL-c Switch
- Cisco Catalyst 3120G Blade Switch for HP
- Cisco Catalyst 3120X Blade Switch for HP
- Cisco Catalyst 3020 Blade Switch
- HP GbE2c Layer 2/3 Ethernet Blade Switch
- HP 10GbE Pass-Thru Module

NOTE: Except for the HP Virtual Connect Flex-10 Ethernet Module, the 6120XG and the HP 10GbE Pass-Thru Module, all other supported interconnects are limited to 1Gb per port connection.

Warranty

HP branded hardware options qualified for BladeSystem c-Class and p-Class servers are covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. The HP branded hardware option diagnostic support and repair is available for one year from date of purchase, or the length of the server they are attached to, whichever is greater. Support for software and initial setup is available for 90 days from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements.

Additional information regarding worldwide limited warranty and technical support is available at:
http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

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Support Services

HP Technology Services

HP Technology Services offers you consultants and support experts to solve your most complex infrastructure problems. We help keep your business running, boost availability and avoid downtime.

Protect your business beyond warranty with HP Care Pack Services

When you buy HP Options, it's also a good time to think about what level of service you may need. HP Care Pack services provide total care and support expertise with committed response choices designed to meet your IT and business need.

Recommended Services

Recommended HP Care Pack Services for optimal satisfaction with your HP product

3-Year HP 24x7 4 hour Response, Hardware Support Onsite Service

Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE.pdf

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf

Related Services

Related HP Care Pack Services to enhance your HP product experience

3-Year HP 6 hour Hardware Support Onsite Call-to-Repair Service

Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request to the HP Global Solution Center.

http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf

HP Proactive Select Service

Service and Support, HP Care Pack, and Warranty Information

	Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months. http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN.pdf
Insight Remote Support	Delivers secure remote monitoring and support for HP servers and storage, 24x7 at no additional cost. Available as part of HP Warranty, Care Pack and Service Contract offers.
Parts and materials	HP will provide HP-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. Supplies and consumable parts will not be provided as part of this service; standard warranty terms and conditions apply. Parts and components that have exceeded their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual or the technical product data sheet will not be provided, repaired or replaced as part of this service.
Coverage	For ProLiant servers and storage systems, this service covers HP-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; these items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply. The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction. It does not apply to any exchange of Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by HP as consumable parts and/or that have exceeded maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual or the technical data sheet are not eligible for the defective media retention service feature option.
For more information	To learn more on services for HP ESSN Options, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: http://www.hp.com/services/proliant or www.hp.com/services/bladesystem

Related Options

Additional c-Class BladeSystem Adapters	HP NC325m PCI Express Quad Port Gigabit Server Adapter	416585-B21
	HP NC360m Dual Port 1GbE BL-c Adapter	445978-B21
	HP NC364m Quad Port 1GbE BL-c Adapter	447883-B21
	HP NC532m Dual Port 10GbE Multifunction BL-c Adapter	467799-B21
	HP NC542m Dual Port Flex-10 10GbE BL-c Adapter	539857-B21
HP 10Gb interconnects	HP Virtual Connect Flex-10 10Gb Ethernet Module for c-Class BladeSystem	455880-B21
	HP 6120XG Blade Switch	516733-B21
	HP 10GbE Ethernet Pass-Thru Module for c-Class BladeSystem	538113-B21

Technical Specifications

General Specifications	Network processor	ServerEngines BE 2 Controller	
	Data rate	Two ports, each at 20 Gbps full duplex; 40 Gbps aggregate full duplex theoretical bandwidth.	
	Bus type	PCI Express v2.0 (Gen 2) x8	
	Form factor	The NC550m is a Type I card and is supported in any mezzanine slot on all Gen 6 servers.	
	IEEE Compliance	802.1p, 802.1q, 802.1qau 802.3u, 802.3ad, 802.3ae, 802.3ap (10GBase-KX4), 802.3x and 802.3z	
Power and Environmental Specifications	Operating	Temperature	0°C to 55°C / 32°F to 131°F
		Humidity	10% to 90% non-condensing
	Power requirement	14W maximum	
	Emissions classification	FCC Class A	
	Agency approvals	USA	FCC (CFR 47 part 15) and UL 60950
		Canada	ICES-003 and CSA60950
		Japan	VCCI
		Korea	MIC (RRL), EMC Registration
		Australia	ACA, AS/NZS3548/EN55022:1998, EN55024:1998
		European Union	EN55022:1998 (CISPR 22), EN55024:1998, and IEC60950:1999 (EN60950:2000)
	RoHS Compliance	6 of 6	
	Safety	UL Mark (USA and Canada)	
		CE Mark	
		EN 60590	

Operating System Support

Microsoft:
Microsoft Windows Server 2008 (32-and 64-bit)
Microsoft Windows Server 2008 for Itanium-based Systems
Microsoft Windows Server 2003 and R2
Microsoft Windows Server 2003 Web Edition
Microsoft Windows Server 2003 Small Business Server
Microsoft Windows 2003 Standard (32 and x64)
Microsoft Windows 2003 Enterprise (32 and x64)

Linux:
RH5 x86
RH5 AMD64EM64T
SLES9 x86
SLES9 AMD64EM64T
SLES 10 x86 and AMD64EM64T

Virtualization:
MS Virtual Server support on Windows 2008
VMware ESX 4.0
VMware ESX 3.5

NOTE: For more operating system support & certification information, please visit:

http://h10018.www1.hp.com/wwsolutions/index.html.

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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